

## **Find, Retrieve, Analyze and Use: Information literacy training for public health workers**

Elaine R. Hicks, MPH, CHES  
420 Flanders Lane  
Grayslake, IL 60030  
(708) 212-5391  
[elaine.hicks@att.net](mailto:elaine.hicks@att.net)

Student, Graduate School of Library and Information Science, University of Illinois at Urbana-Champaign  
University of Illinois at Urbana-Champaign  
501 E. Daniel Street, Room 112  
Champaign, IL 61820-6211  
[erhicks@illinois.edu](mailto:erhicks@illinois.edu)

## Abstract

---

### **Objective:**

- To identify information literacy skills in public health and librarian competency sets.
- To demonstrate that information literacy skills are being developed in the public health workforce through library-sponsored trainings.

**Methods:** A literature review identified information literacy development trainings for state or local public health workers. Three trainings which improved either public health core or bioterrorism competencies were selected. Two tables were created for each training: one illustrates the relationship between training objectives and information literacy skills and the second table identifies the information literacy skills embedded in public health competencies.

**Population:** State and local public health workers

**Results:** Librarians helped the public health workforce do its job more efficiently by teaching workers how to find, retrieve, use and analyze information using technology.

**Conclusion:** Librarians, public health workers and a minority community identified health issues and created information literacy skills trainings. In another training, the state library and health department used assessment data to teach workers how to use an online bibliographic database. Although librarians were not involved in another state health department training, the event improved information literacy skills. Imagine how much more effective trainings could be if librarians were involved in planning.

# **Find, Retrieve, Analyze and Use: Information literacy training for public health workers**

## **Introduction**

---

Information literacy, combined with public health professional competencies and applied to the practice of public health, contributes to the achievement of national health objectives and the development of an informed society. Evidence of the importance of increasing information literacy among public health practitioners is found in competency sets, not so much because the term, “information literacy”, has been used, but because the skills described in the definition of information literacy are embedded in trainings. The purpose of this study is to identify information literacy skills in public health and librarian competency sets and to demonstrate that information literacy skills are being developed in the public health workforce through library-developed trainings.

### **A. Background**

Of three trainings examined in this study, two were developed by health science librarians to improve information technology skills but neither used the term “information literacy” in their description of what they achieved. One neither included librarians nor information skills in the training, yet improved information literacy. This study focuses the use of information literacy skill development among public health workers using two sets of public health competencies: *Core Competencies for Public Health Professionals* [1] and *Bioterrorism and Emergency Readiness Competencies for All Public Health Workers*. [2] Because information literacy initiatives sponsored at the federal level by the National Library of Medicine have been described (Cogdill, et.al. [3] and Cahn, et.al.[4]), this study will examine trainings at the state and local level.

## **B. Definitions**

Information Literacy is the set of skills needed to find, retrieve, analyze, and use information.

[5] It is neither health information literacy, being addressed by a project of the Medical Library Association [6] nor health literacy originally described by the Committee on Health Literacy of the Board on Neuroscience and Behavioral Health at the Institute of Medicine in 2004. [7]

### **Information literacy**

---

The Association of College and Research Libraries Presidential Committee on Information Literacy (Presidential Committee) summarized the value of information literacy to individuals, organizations and to our society, noting that “Ultimately, information literate people are those who have learned how to learn. They know how to learn because they know how knowledge is organized, how to find information and how to use information in such a way that others can learn from them.”[8]

Applied to personal health, information skills can mean the difference between health, disability and premature death, those aspects of quality of life to which public health practitioners are devoted. Without good skills, people are vulnerable to poor information. One only has to think about the consequences of placing a parent in a poorly-rated nursing home which was not personally investigated using electronic resources at the local public library. Applied to public health organizations required to make fast decisions about complex problems which affect whole communities, these skills and resources are vital to good decisions. Public health workers with good information literacy skills can better provide relevant information to the public generally and to clients specifically. As citizens, the ability to find, retrieve, analyze and use political information creates informed choices in the voting booth, a protection of individual freedom. Educator

Christine Bruce describes information literacy as “the overarching literacy essential for twenty-first century living”. [9]

The 1999 report, *Falling Through the Net: Defining the Digital Divide*, found that “there is still a significant ‘digital divide’ separating American information ‘haves’ and ‘have nots’.” [10] Further, the report suggests that community access centers -- such as schools, libraries, and other public access points -- will play an important role in narrowing the gap. Both health departments and libraries can narrow the digital divide by creating information literacy trainings for both public health workers and consumers.

Librarians can teach people how to learn by developing skills to locate, evaluate and effectively use information, a restructuring of the traditional learning process. The tables in this study illustrate how this new learning process was applied in training the public health workforce. The following skills were illustrated which actively involved participants in the process of learning:

- Developing an awareness of a need for information
- Identifying information needed to address a given problem or issue
- Finding needed information and evaluating the information
- Organizing the information
- Using the information effectively to address the problem or issue at hand

Not all of the trainings incorporated all of the above skills.

## **Public health workforce development**

---

*About the public health enterprise*

The mission of public health is to fulfill “society’s interest in assuring conditions in which persons can be healthy. [11] The public health enterprise engages both private and public organizations and individuals in accomplishing this mission. Responsibilities include but are not limited to preventing epidemics and the spread of disease, protecting against environmental hazards, preventing injuries, encouraging healthy behavior, helping communities to recover from disasters, and ensuring the quality and accessibility of health services.[12] Discussions about the public health workforce necessarily begin with the nation’s health goals, objectives, and the document Healthy People 2010, a set of national health objectives measured by leading health indicators which measure the nations’ health for ten-year periods.[13] These objectives also serve as the basis for the development for state and local community health plans.

#### *Healthy People Goal 23, Public Health Infrastructure*

The purpose of Healthy People Goal 23 [12] is to ensure that federal, tribal, state, and local health agencies have the infrastructure to provide essential public health services effectively.[14] Infrastructure provides the capacity to prepare for and respond to both acute and chronic threats to the Nation’s health, whether they are bioterrorism attacks, emerging infections, disparities in health status, or increases in chronic disease and injury rates.

#### *Healthy People Workforce Objectives 23-8 and 23-10*

“The workforce needs to know how to use information technology effectively for networking, communication, and access to information...There is an ongoing need to train and educate people who are currently employed in public health as new areas, problems, threats, and potential disasters emerge.” This study focuses on three Healthy People 2010 objectives: 23-8 and 23-10.

*Healthy People 23-8: Increase the proportion of federal, tribal, state, and local agencies that incorporate specific competencies in the essential public health services into personnel systems.*

The essential services which were indicated in the three trainings reviewed in this study are:

- Inform, educate, and empower people about health issues
- Assure a competent public health and personal health care workforce
- Evaluate effectiveness, accessibility, and quality of personal and population-based health services
- Research for new insights and innovative solutions to health problems

*Healthy People 23-10: Increase the proportion of federal, tribal, state, and local public health agencies that provide continuing education to develop competency in essential public health services for their employees.*

## **Public Health Competencies**

---

Pursuant to the publication of the 1988 report, *The Future of Public Health*. [11], sets of competencies have been created for a wide variety of public health practitioners beginning with a set of “universal competencies” in 1992.[15] This study uses two subsequent sets of public health competencies: *The Core Competencies for Public Health Professionals* [16] and the Bioterrorism and Emergency Readiness Competencies for All Public Health Workers.[2] Similarly, sets of competencies have been developed for librarians working in medical and health settings.[17, 18]

*What is a competency?*

Developers of the *Competency-to-Curriculum Toolkit* stated that “competencies are...applied skills and knowledge that enable people to perform work”.[19] Competency statements consist of these elements:

- Action verb (observable or measurable performance of a worker)
- Content (subject matter, type of performance, specific task)
- Context (limitations or conditions of work environment)”

An example of a bioterrorism and emergency readiness competency is “Public health leaders must be able to DESCRIBE [action] the chain of command [content] in emergency response [context]”. This study extracts from the competency sets information literacy activities of finding, retrieving, analyzing, and using information.

## **Methods**

---

Using the ACRL definition of information literacy, I searched PubMed and other electronic databases for journal articles about information literacy skill trainings in a public health context. Trainings were filtered initially by point of origin. Those which were developed at the state or local level were selected. A second filter selected those trainings which could be aligned with either public health core or bioterrorism competencies. Three trainings were selected for review: The Urban Health Partnership, the training event Public Health Preparedness: Pandemic Influenza California Update 2005, and a Montana initiative to increase state public health professionals’ proficiency in using PubMed. For each training program, two tables were created. One table illustrates the relationship between the training objectives and the information literacy learning process. The following information literacy skills were illustrated which actively involved participants in the process of learning:



- Developing an awareness of a need for information
- Identifying information needed to address a given problem or issue
- Finding needed information and evaluating the information
- Organizing the information
- Using the information effectively to address the problem or issue at hand

The other table identifies the information literacy skills embedded in public health competencies.

## **Results: Information literacy-embedded public health trainings**

---

### **The Urban Health Partnership**

The Urban Health Partnership, a sustainable community partnership of the Vera P. Shiffman Medical Library at Wayne State University, the Wayne County Department of Public Health and the Arab Community Center for Economic and Social Services, perhaps narrowed the digital divide.[20] The geographic area served by the library (Dearborn, Michigan) includes the nation's highest concentration of Arab-Americans.[21] It is the only academic medical library available to the health department which is also responsible for providing relevant and user-friendly information to the same community. Both Shiffman librarians and public health workers wanted to understand the health information needs of this community. The collaboration had three benefits:

- provided a context for trust to develop between all partners
- helped the professionals gain a deeper understanding of the information needs and health issues of the community
- identified collaborative ways to overcome barriers to using the health information in public health settings.

### *Arab American information needs*

Librarians attended health fairs, conferences and researched phone directories, websites and newspapers to learn about health issues, and identify leaders, stakeholders and resources. They became aware of the difficulties residents had in locating culturally meaningful health information in Arabic.

### *Public health workforce information needs*

Shiffman librarians conducted interviews with stakeholders, analyzed feedback from health fairs and conferences, and analyzed evaluations they received from their workshops on searching medical literature (PubMed, MedlinePlus and Loansome Doc) using health issues relevant to the community. These workshops led to customized training.

Table 1 illustrates the information literacy skills gained by the public health workers in the Shiffman Library workshops. It is unknown if the public health workers were taught to develop an awareness of a need for information, or if they were taught to organize the information they found (i.e. use a citation manager program). I considered the activities of learning how to use a spreadsheet, presentation and statistical software to be an organizational skill.

<b>Table 1</b> Public health workforce activities applied to the information literacy learning process	
<b>Information Literacy Learning Process</b>	<b>Training Activities</b>
Developing an awareness of a need for information	N/A
Identifying information needed to address a given problem or issue	Searching medical literature
Finding needed information and evaluating the information	Locating public health data resources
	Evaluating health information

	Finding funding opportunities
	Accessing reference and document delivery services
	Finding resources for emerging infectious diseases (avian influenza and West Nile Virus)
Organizing the information	Using spreadsheet, presentation and statistical software
Using the information effectively to address the problem or issue at hand	Using spreadsheet, presentation and statistical software

In the process of training the public health workforce and learning about the Arab American community, the librarians increased their own competencies described by both the MLA and the Special Library Association (Table 2). To learn about the community, they attended health fairs, conferences and researched phone directories, websites and newspapers to learn about health issues, and identify leaders, stakeholders and resources. To learn about the information and training needs of the workforce, they conducted interviews, elicited and analyzed feedback both from health fairs and conferences attended and workshops presented.

<b>Table 2</b> Information literacy skills applied to librarianship competencies in the Urban Health Partnership				
<b>Competency Set</b>	<b>Information Literacy Skills</b>			
	<b>Find</b>	<b>Retrieve</b>	<b>Analyze</b>	<b>Use</b>
<b>Health Information Science Knowledge and Skills</b> <b>Medical Library Association[17]</b>				
<b>Health Sciences Information Services</b> Health sciences librarians require knowledge of the content of information resources and skills in using them. They must understand the principles and practices related to providing information to meet specific user needs and to ensure convenient access to information in all forms, including				
assessment of identified information needs	X			
analysis, evaluation, and synthesis of information for identified needs			X	
<b>Research, Analysis, and Interpretation</b> In order to conduct and interpret research, the health sciences librarian is called upon to apply knowledge, skills, and understanding of:				
analysis, evaluation, and application of research results			X	X
<b>Competencies for Information Professionals</b> <b>Special Libraries Association[18]</b>				
<b>Managing Information Services</b>				
Researches, analyzes and synthesizes information into accurate answers or actionable information for clients, and ensures that clients have the tools or capabilities to immediately apply these.			X	
<b>Applying Information Tools &amp; Technologies</b>				
Assesses, selects and applies current and emerging information tools and creates information access and delivery solutions.			X	X

The workshop developed by the Shiffman librarians for the public health workers included locating public health data resources, evaluating health information, and finding funding opportunities. The activities can be applied to a few of the public health core competencies for local public health workers (Table 3). [1]

Table 3				
Information literacy skills applied to public health competencies in the Urban Health Partnership				
Competency Set	Information Literacy Skills			
	Find	Retrieve	Analyze	Use
Core Competencies for All Public Health Professionals				
Domain #1 Analytic/Assessment Skills				
4. Identifies relevant and appropriate data and information sources			X	
10. Applies data collection processes, information technology applications, and computer systems storage/retrieval strategies			X	X
Domain #6 Basic Public Health Sciences Skills				
4. Identifies and applies basic research methods used in public health		X	X	X
6. Identifies and retrieves current relevant scientific evidence		X		
Attitudes				
1. Develops a lifelong commitment to rigorous critical thinking				X

### **Public Health Preparedness: Pandemic Influenza California Update 2005**

Information literacy initiatives also strengthen the nation's ability to respond to public health emergencies. In October, 2005, the California Department of Health Services and the California Distance Learning Health Network created a two-part training event to help local health departments respond to the anticipated flu pandemic.[22] Continuing education credits were offered through the federal Centers for Disease Control and Prevention, consistent with the Healthy People 2010 Goal 23 Objective 10: Increase the proportion of federal, tribal, state, and local public health agencies that provide continuing education to develop competency in essential public health services for their employees.[12]

*Satellite Broadcast*

The first part of the event was a ninety-minute live satellite broadcast. Also included was a video on the 1918 Spanish Flu pandemic, along with a live, moderated question-and-answer session. It is important to note that this training activity was neither designed by librarians nor included information skill development in its objectives. Yet the satellite broadcast objectives improved the information literacy skills (Table 4). The table-top exercise which followed improved the participant's ability to find, analyze and use information.

<b>Table 4</b> Training activities applied to the information literacy learning process		
<b>Information Literacy Learning Process</b>	<b>Training Objectives</b>	
	Satellite Broadcast	Table-Top Exercise
Developing an awareness of a need for information	N/A	N/A
Identifying information needed to address a given problem or issue	Identify an issue related to the availability of vaccine and antivirals during an influenza epidemic	N/A
	Identify at least one non-medical intervention to decrease the spread of pandemic influenza	N/A
Finding needed information and evaluating the information	N/A	N/A
Organizing the information	N/A	N/A
Using the information effectively to address the problem or issue at hand	Describe at least two measures that reduce the transmission of influenza	Practice two of 10 deliverables presented that should be included in a pandemic influenza plan
	Explain why it is essential to collaborate with outside agencies	Familiarize participants with their local jurisdiction's pandemic influenza plan
	Describe at least one way in which the laboratory is involved	

	in responding to pandemic influenza	
--	--	--

### *Tabletop training exercise*

A subsequent tabletop cross-training exercise followed the satellite broadcast as an optional activity to reinforce the broadcast objectives and to provide a mechanism for a variety of professionals to practice surge capacity activities described in pandemic flu plans. Group facilitators were responsible for meeting two objectives in the context of a hypothetical spread of pandemic influenza from outside the United States to California:

1. Familiarizing participants with their local jurisdiction's pandemic influenza plan.
2. Practicing two of 10 deliverables that should be included in a pandemic influenza plan.

The deliverables closely matched bioterrorism competencies for all public health workers, leaders, and public information officers as described by the Columbia University School of Nursing Center for Health Policy.[2] Table 5 identifies those competencies by role and by information literacy skill practiced in the table-top exercise for two phases of an emergency: Preparedness and Training and Response and Mitigation.

Table 5				
Information literacy skills applied to public health competencies in a table-top training exercise				
Roles	Competency Set	Information Literacy Skills		
		Find	Retrieve	
Bioterrorism & Emergency Readiness: Competencies for All Public Health Workers				
I. Preparedness and Training				
	2. Describe the chain of command in emergency response			
Leaders	Deliverable # 4: Identify agency partners and other stakeholders who would be involved in two response activities, and list respective roles and responsibilities.			
Leaders/ Public Information	Deliverable # 5: List issues to be included in a Memorandum Of Understanding (MOU) with one partner agency (on any of the issues listed	X		

<b>Officers</b>	in Deliverable #4) and then draft a sample MOU.		
<b>Leaders</b>	<b>Deliverable # 7:</b> Identify agency partners who would be involved in two response activities, and list their respective roles and responsibilities.		
<b>All</b>	<b>Deliverable # 9:</b> Test your organization's emergency response command and communication structure by drawing a schematic of the response structure and information flow, or a call-down tree to activate an emergency response plan.		

3. **3. Identify and locate the agency emergency response plan (or the pertinent part of the plan)**

Identify and locate the agency emergency response plan (or the pertinent part of the plan)

<b>Public Information Officers</b>	<b>Deliverable #1:</b> Draft a Health Advisory intended for your local health department staff on what your county is doing to prepare for pandemic influenza.	X	
------------------------------------	--	---	--

**6. Describe communication role(s) in emergency response**

<b>Public Information Officers</b>	<b>Deliverable # 3:</b> Draft possible key messages and use them to draft a press release about pandemic influenza in general before a local outbreak has occurred.	X	
<b>Public Information Officers</b>	<b>Deliverable # 10:</b> Devise a step-by-step plan for the type of communication channels that will be used, how they will be used, and the populations the communication channels will reach.		

**II. Response and Mitigation**

**9. Apply creative problem solving and flexible thinking to unusual challenges within his/her functional responsibilities and evaluate effectiveness of all actions taken**

Coordinate the development and delivery of event-specific information based on scientific principles of risk communication to inform the public, the media, health care providers and members of the response community during a BT event.

<b>Public Information Officers</b>	<b>Deliverable #2:</b> Create a Public Information Fact Sheet for one of various activities listed (e.g. altering health providers of the first person-to-person influenza case)	X	
<b>Public Information Officers</b>	<b>Deliverable #6:</b> Draft possible key messages and use them to draft a press release to alert the public about the first case of pandemic influenza	X	



<b>Public Information Officers</b>	<b>Deliverable #8:</b> Draft the key messages to include in a press release to alert the public about any of the issues listed in Deliverable #7	X	
------------------------------------	--	---	--

### **Increasing state public health professionals' proficiency in using PubMed**

A 2007 literature review found a critical need among public health practitioners for public health digital knowledge management systems designed to reflect the diversity of public health activities, to enable human communications, and to provide multiple access points to critical information resources.[23] The authors concluded that “public health librarians and other information specialists can serve a significant role in helping public health professionals meet their information needs through the development of evidence-based decision support systems, human-mediated expert searching and training in the use information retrieval systems.”

A goal of the Division of Public Health and Safety at the Montana Department of Public Health and Human Services in 2006 was to increase the awareness and use of electronic information resources. The Division, with faculty from the Montana State University State Libraries and Department of Microbiology conducted a web-based assessment of Montana state public health practitioners (excluding administrative and fiscal support staff) to evaluate their current use of electronic information systems, as well as their interest in receiving training in using these systems. [24] Based on assessment (survey) results, three ninety-minute trainings were developed. The training goal was to increase staff skills in the use of PubMed. Three objectives were developed:

- 1 . Identify key questions to answer prior to performing a literature search.
- 2 . Utilize Medical Subject Headings (MeSH) including limiting searching (including the use of Boolean operators) and using other features.
- 3 . Conduct literature searches and ordering articles.

Table 6 outlines Montana training activities which support information literacy skills among public health program staff. It is unknown if the public health workers were taught how to develop an awareness of a need for information, or if they were taught to organize the information they found (i.e. use a citation manager program).

<b>Table 6</b> PubMed training activities applied to the information literacy learning process	
<b>Information Literacy Learning Process</b>	<b>Training Activities</b>
Developing an awareness of a need for information	N/A
Identifying information needed to address a given problem or issue	Identifying key questions to answer prior to performing a literature search
Finding needed information and evaluating the information	Using MeSH
	Limiting searching (including the use of Boolean operators) and other features
Organizing the information	N/A
Using the information effectively to address the problem or issue at hand	Conducting literature searches and using Lonesome Doc to order articles

Staff training aligns information literacy skills with the Council on Linkages Core Competencies for All Public Health Professionals (Table 7):

- translate topics into explicit question (define a problem);
- use the MeSH vocabulary and PubMed features in their searches (apply information technology applications) and (retrieve current relevant scientific evidence);
- practice literature searches (apply basic research methods used in public health) and
- ordered articles (apply information technology applications, and retrieval strategies)

<b>Table 7</b> Information literacy skills applied to public health competencies in PubMed training				
<b>Competency Set</b>	<b>Information Literacy Skills</b>			
	<b>Find</b>	<b>Retrieve</b>	<b>Analyze</b>	<b>Use</b>

<b>Core Competencies for All Public Health Professionals</b>				
<b>Domain #1 Analytic/Assessment Skills</b>				
1. Defines a problem			X	
10. Applies data collection processes, information technology applications, and computer systems storage/retrieval strategies			X	X
<b>Domain #6 Basic Public Health Sciences Skills</b>				
4. Identifies and applies basic research methods used in public health.	X	X		X
6. Identifies and retrieves current relevant scientific evidence	X	X		

## Discussion

---

Examining three public health trainings through the lens of information literacy began with an information literacy assignment for students in two academic settings: a community college health class, and a health behavior class in a Master of Public Health program at a private college. Both sets of students struggled to develop their own opinions based on a critical defense of a chosen thesis statement using public health criteria. Their experiences mirrored the ALA Presidential Committee statement: “In an attempt to reduce information to easily manageable segments, most people have become dependent on others for their information. Information prepackaging in schools and through broadcast and print news media, in fact, encourages people to accept the opinions of others without much thought. Information literacy, therefore, is a means of personal empowerment. It allows people to verify or refute expert opinion and to become independent seekers of truth. It provides them with the ability to build their own arguments and to experience the excitement of the search for knowledge.”

Strengthening information literacy skills by creating independent learners and thinkers among the public health workforce helps public health agencies provide four Essential Health Services[14]:

- Inform, educate, and empower people about health issues;

- Assure a competent public health and personal health care workforce;
- Evaluate effectiveness, accessibility, and quality of personal and population-based health services;
- Research for new insights and innovative solutions to health problems

Librarians are uniquely qualified to help the public health workforce do its job more efficiently using information technology and developing information literacy skills. In the example of the Urban Partnership program, the Shiffman Library and the Wayne County Department of Public Health are called to serve the same Arab American community. Using their collective skills, they identified community health issues and trained public health workers how to increase information literacy skills. A self-report assessment prior to the Montana training found that only ten percent of workers had training to use an online bibliographic database; thirty-nine percent used an online bibliographic database to search the literature in the past year; and most, sixty-nine percent, were interested in the proposed training. After receiving the training by a librarian, staff felt that they were very likely to use the systems in the next year, and that their skills had improved.

Librarians were not involved in the California pandemic influenza training, yet the event improved information literacy skills. Imagine how much more powerful emergency preparedness training exercises could be if librarians built information literacy training into exercises. It is not known if the developers of the California exercise used the bioterrorism competency set to design their events but an analysis indicates that participants increased their public health competency.

The assignment of information literacy skills to training objectives and competencies is my estimation only. A more thorough review would create a working group of librarians and public health practitioners to examine information literacy skill development in selected competency sets in selected trainings.

## **Acknowledgment**

---

I would like to express thanks to library and public health professionals for their review, good thoughts and support: W. John MacMullen, PhD; Keith Cogdill, PhD; Mary Klatt, MALS; Marcus Banks, MLIS, AHIP; Barney Turnock, MD, MPH; Todd Harwell, MPH.

## References

---

1. The Council on Linkages Between Academia and Public Health Practice. Core competencies for public health professionals core competencies for public health professionals [Web document]. April 11, 2001.
2. *Bioterrorism & Emergency Readiness Competencies for All Public Health Workers*. Columbia University School of Nursing Center for Health Policy. 2002.
3. Cogdill KW, Ruffin AB, Stavri PZ. The national network of libraries of medicine's outreach to the public health workforce: 2001-2006. *J Med Libr Assoc*. 2007 Jul; 95(3):310-5.
4. Cahn MA, Auston I, Selden CR, Cogdill K, Baker S, Cavanaugh D, Elliott S, Foster AJ, Leep CJ, Perez DJ, Pomietto BR. The partners in information access for the public health workforce: A collaboration to improve and protect the public's health, 1995-2006. *J Med Libr Assoc*. 2007 Jul; 95(3):301-9.
5. ACRL - intro to info lit [Web document]. [cited 4/12/2008].
6. Medical Library Association | resources: Health information literacy [Web document]. [cited 4/30/2008].
7. Language barriers and illiteracy can affect patient health care [Web document]. [cited 4/30/2008].
8. Nielsen-Bohlman L, Institute of Medicine. Committee on Health Literacy. *Health literacy: a prescription to end confusion*. Washington, D.C.: The National Academies Press, 2004.
9. ACRL - Presidential Committee on Information Literacy [Web document]. [cited 4/12/2008].

10. Bruce C. Information literacy as a catalyst for educational change: A background paper [Web document]. [cited 4/30/2008].
11. Falling Through the Net: Introduction [Web document]. [cited 4/30/2008].
12. Institute of Medicine (U.S.). Committee for the Study of the Future of Public Health. The future of public health. Washington, D.C.: National Academy Press, 1988.
13. Goal 23 Public Health Infrastructure [Web document]. [cited 4/13/2008].
14. What is Pealthy people?[Web document]. [cited 5/2/2008].
15. Harrell, J.A., and Baker, E.L. The essential services of public health. *Leadership in Public Health*. 1994; 3(3):27.
16. Sorenson, AA, Bialek, RG, eds, ed. The Public Agency/Faculty Forum: Linking graduate education and practice-Final report. Gainesville, FL: University of Florida Press, 1992.
17. Medical Library Association | education: Platform for change [Web document]. [cited 4/12/2008].
18. Competencies for information professionals - Special Libraries Association [Web document]. [cited 4/12/2008].
19. Gebbie KM. Competency-to-Curriculum Tool Kit: developing curricula for public health workers. Center for Health Policy, Columbia University School of Nursing & Association of Teachers of Preventative Medicine. 2004.
20. Charbonneau DH, Healy AM. Collaborating with community partners to provide health information in Arabic. *Journal of Consumer Health on the Internet* 2006;10(2):1.
21. De la Cruz, GP, Brittingham A. The Arab Population: 2000 [Web document]. 2003.

22. Macario E, Benton LD, Yuen J, Torres M, Macias-Reynolds V, Holsclaw P, Nakahara N, Jones MC. Preparing public health nurses for pandemic influenza through distance learning. *Public Health Nurs.* 2007 Jan-Feb;24(1):66-72.
23. Revere D, Turner AM, Madhavan A, Rambo N, Bugni PF, Kimball A, Fuller SS. Understanding the information needs of public health practitioners: A literature review to inform design of an interactive digital knowledge management system. *J Biomed Inform* 2007 Aug; 40(4): 410-21.
24. Harwell TS, Law DG, Ander JL, Helgersen SD. Increasing state public health professionals' proficiency in using PubMed. *J Med Libr Assoc.* 2008 Apr; 96(2):134-7.

#### Authors' Affiliation

---

Elaine R. Hicks, MPH, CHES, Student  
Graduate School of Library and Information Science, University of Illinois at Urbana-Champaign  
420 Flanders Lane  
Grayslake, IL 60030  
(708) 212-5391  
[erhicks@illinois.edu](mailto:erhicks@illinois.edu)  
[elaine.hicks@att.net](mailto:elaine.hicks@att.net)



## Highlights

---

- In the process of training the public health workforce and learning about the Arab American community, the Urban Health Partnership Shiffman librarians increased their own competencies described by both the MLA and the Special Library Association.
- The Pandemic Influenza California Update 2005 was neither designed by librarians nor included information literacy skill development in its objectives. Yet the training events improved information literacy skills of state public health workers.
- A self-report found that only 10% of a group of Montana public health workers had online bibliographic database training and most (69%) were interested in the proposed training. After receiving a librarian-developed training, staff felt that they were very likely to use the systems in the next year, and that their skills had improved.

## Implications

---

- Librarians are uniquely qualified to help the public health workforce by developing information literacy skill trainings.

## References

1. Council on linkages: Draft core competencies for public health professionals [Web document]. Washington, DC: Public Health Foundation, 2007 [cited 23 September 2008]. <<http://www.phf.org/link/corecompetenciesdraft.htm>>.
2. *Bioterrorism & Emergency Readiness Competencies for All Public Health Workers*. Columbia University School of Nursing Center for Health Policy, 2002.
3. Cogdill KW, Ruffin AB, Stavri PZ. The national network of libraries of medicine's outreach to the public health workforce: 2001-2006. *J Med Libr Assoc* 2007 Jul;95(3):310-5.
4. Cahn MA, Auston I, Selden CR, Cogdill K, Baker S, Cavanaugh D, Elliott S, Foster AJ, Leep CJ, Perez DJ, Pomietto BR. The partners in information access for the public health workforce: A collaboration to improve and protect the public's health, 1995-2006. *J Med Libr Assoc* 2007 Jul;95(3):301-9.
5. Introduction to information literacy [Web document]. Chicago, IL: American Library Association, September 29, 2006 [cited 12 April 2008]. <<http://www.ala.org/ala/acrl/acrlissues/acrlinfo/infolit/infolitoverview/introtoinfolit/introinfolit.cfm>>.
6. Shipman, J, Funk, C, Kurtz-Rossi, S. Medical library association | resources : Health information literacy [Web document]. Chicago, IL: Medical Library Association, 2008 February 06 [cited 23 September 2008]. <[http://www.mlanet.org/resources/healthlit/hil\\_project\\_overview.html](http://www.mlanet.org/resources/healthlit/hil_project_overview.html)>.

7. Nielsen-Bohlman, L, Panzer, A, and Kindig, D, ed. Health literacy : a prescription to end confusion, Institute of Medicine. Washington, D.C: National Academies Press, 2004.
8. Presidential committee on information literacy [Web document]. Chicago, IL: Association of College & Research Libraries, a division of the American Library Association, 1989 [cited 12 April 2008].  
<<http://www.ala.org/ala/mgrps/divs/acrl/acrlpubs/whitepapers/presidential.cfm>>.
9. Bruce C.  
Information literacy as a catalyst for educational change: A background paper [Web document]. Prague, The Czech Republic: UNESCO, the U.S. National Commission on Libraries and Information Science, July 2002 [cited 30 April 2008].  
<<http://www.nclis.gov/libinter/infolitconf&meet/papers/bruce-fullpaper.pdf>>.
10. Irving L. Falling through the net: Defining the digital divide [Web document]. Washington, D.C: U.S. Department of Commerce, National Telecommunications and Information Administration [cited 30 April 2008].  
<<http://www.ntia.doc.gov/ntiahome/fttn99/introduction.html>>.
11. Institute of Medicine (U.S.). Committee for the Study of the Future of Public Health. The future of public health. Washington, D.C.: National Academy Press, 1988.
12. Healthy People 2010 Volume II, Goal 23: Public Health Infrastructure.  
<http://www.healthypeople.gov/document/HTML/Volume2/23PHI.htm> ed. Hyattsville, MD: National Center for Health Statistics, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, 2000.

13. What Is Healthy People 2010? <http://www.healthypeople.gov/About/whatis.htm> ed. Hyattsville, MD: National Center for Health Statistics, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, 2000.
14. Harrell, J.A., and Baker, E.L. The essential services of public health. *Leadership in Public Health* 1994;3(3):27.
15. Sorenson, AA, Bialek, RG, ed. The Public agency/faculty forum: linking graduate education and practice-final report. Gainesville, FL: University of Florida Press, 1992.
16. The Council on Linkages Between Academia and Public Health Practice. Core competencies for public health professionals core competencies for public health professionals [Web document]. , April 11, 2001.
17. Platform for change: Health information science knowledge and skills [Web document]. Chicago, IL: Medical Library Association, 13 July 2007 [cited 12 April 2008]. <<http://mlanet.org/education/platform/skills.html>>.
18. Competencies for information professionals - special libraries association [Web document]. Alexandria, VA: Special Libraries Association, June, 2003 [cited 12 April 2008]. <<http://www.sla.org/content/learn/comp2003/>>.
19. Gebbie KM. Competency-to-Curriculum Tool Kit: developing curricula for public health workers. Center for Health Policy, Columbia University School of Nursing & Association of Teachers of Preventative Medicine., 2004.

20. Charbonneau DH, Healy AM. Collaborating with community partners to provide health information in arabic. *Journal of Consumer Health on the Internet* 2006;10(2):1.
21. De la Cruz, GP, Brittingham A. *The Arab Population: 2000*.  
<http://www.census.gov/prod/2003pubs/c2kbr-23.pdf> ed. Washington, DC: Population Division, U.S. Census Bureau, 2003.
22. Macario E, Benton LD, Yuen J, Torres M, Macias-Reynolds V, Holsclaw P, Nakahara N, Jones MC. Preparing public health nurses for pandemic influenza through distance learning. *Public Health Nurs* 2007 Jan-Feb;24(1):66-72.
23. Revere D, Turner AM, Madhavan A, Rambo N, Bugni PF, Kimball A, Fuller SS. Understanding the information needs of public health practitioners: A literature review to inform design of an interactive digital knowledge management system. *J Biomed Inform* 2007 Aug;40(4):410-21.
24. Harwell TS, Law DG, Ander JL, Helgerson SD. Increasing state public health professionals' proficiency in using PubMed. *J Med Libr Assoc* 2008 Apr;96(2):134-7.